

U.S. Air Force

EDWARDS AIR FORCE BASE : CALIFORNIA

Edwards Air Force Base (AFB) is located in the Antelope Valley on the western edge of the Mojave Desert. The base features Rogers Dry Lakebed – an extremely flat, smooth, concrete-like playa surface that provides 68 miles of runways and acts as a safety net for flight test and as a natural extension to the base’s main runway.

Edwards AFB is headquarters for the Air Force Test Center and home to the 412th Test Wing (TW). The center oversees test



operations at the 412th TW; 96th TW at Eglin AFB, FL; and the Arnold Engineering Development Complex at Arnold AFB, TN. The 412th TW’s primary mission is to

conduct developmental test and evaluation of aircraft from concept to combat. The Edwards test force has played a vital role in testing every aircraft to enter the Air Force inventory since World War II. The Air Force of the future is being proven at Edwards AFB today.

In 2014, Edwards AFB had an impact of \$1.49 billion on the local economy (\$520 million - annual payroll; \$304 million - expenditures; and \$664 million – estimated value of indirect jobs created).

FAST FACTS as of 2014

- » Location: **Kern, Los Angeles, San Bernardino Counties, CA**
 - » Land Area: **308,000 acres (481 square miles)**
 - » Special Use Airspace: **20,000 nautical miles**
 - » Military Personnel: **1,927**
 - » Civilian Personnel: **7,847**
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Above: An F-22 Raptor takes off from Edwards AFB to complete aerial refueling testing using an alternative jet engine fuel –a first for Air Force aircraft. The fuel is a 50/50 mix of jet fuel and natural gas-based fuel. (Lockheed Martin photo)

Left: An F-35 Lightning II, a stealth multirole fighter currently undergoing developmental testing, taxis to a stop after completing a test mission at Edwards AFB. (U.S. Air Force photo)

PAST AND PRESENT

For the last 60 years, Edwards has seen testing of every major weapons system in the Air Force arsenal plus many of those belonging to sister services. Among the many Edwards historic events was Oct. 14, 1947 when then Capt. Chuck Yeager broke the sound barrier in the Bell X-1. The array of test and test support aircraft currently assigned to Edwards include: B-1, B-2, B-52, C-5, C-12, C-17, C-130, C-130J, KC-135, CV-22, F-16, F-22, F-117, F-35, MQ-1, MQ-9, YAL-1 and RQ-4. The test force flies missions to evaluate everything from airframe structures and propulsion to avionics and electronic warfare – ensuring these systems have been proven capable of completing their combat missions.

CONTACT

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EDWARDS AFB : CALIFORNIA

UNIT MISSIONS

- » **412th Test Wing:** Plans, conducts, analyzes, and reports on all flight and ground testing of aircraft, weapons systems, software, components, modeling and simulation for the Air Force. There are three core components for this mission: flying operations, maintenance, and engineering.

The maintenance group maintains and flies an average of 90 aircraft with upwards of 30 different aircraft designs. It also performs more than 7,400 missions (including more than 1,900 test missions) on an annual basis.

The Test Pilot School, also part of the test wing, is where the Air Force's top pilots, navigators and engineers learn how to conduct flight tests and generate the data needed to carry out test missions.

The Engineering Division and the Electronic Warfare Division provide the central components in conducting the Test and Evaluation mission. They provide the tools, talent and equipment for the core disciplines of aircraft structures, propulsion, avionics and electronic warfare evaluation of the latest weapon system technologies. They also host the core facilities that enable flight test and ground test – the Range Division, Benefield Anechoic Facility, Integrated Flight Avionics Systems Test Facility and the Air Force Electronic Warfare Evaluation Simulator. The Project and Resource Management Divisions provide the foundation for the successful program management of test missions.

The test wing oversees the day-to-day operations of the base and provides support for military, federal civilian, and contract personnel assigned to Edwards AFB.
- » **Air Force Test Center (AFTC):** Headquartered at Edwards AFB, AFTC leads the test and evaluation mission, conducting developmental test and evaluation of air, space, and cyber systems and provides timely, objective, and accurate information to decision makers.

AFTC directs the developmental test and evaluation of air, space, and cyber systems for military services, other U.S. government agencies, and international partners. Units assigned to the AFTC include the 96th Test Wing at Eglin AFB, FL; the 412th Test Wing at Edwards AFB, CA; and the Arnold Engineering Development Complex at Arnold AFB, TN.
- » **Air Force Research Laboratory (AFRL) Detachment 7:** AFRL's Rocket Propulsion Division at Edwards is responsible for the development of rocket propulsion technologies for current and future Air Force space and missile systems. More than 250 military and civilian scientists, engineers, technicians and support staff have devoted their efforts to the discovery, development and application of scientific and engineering answers to national defense rocket propulsion needs for more than 50 years. Detachment 7 is the development center for all Air Force rocket and missile propulsion technologies. Nearly every U.S. rocket-propelled system used today for tactical operations, ballistic launch, space launch, and space operations can trace its technology back to this site, known historically as simply the "Rocket Site."



Above: A C-17 Globemaster deploys flares during a test flight.

COMMANDER RANK

Brigadier General

ON-BASE TEST RANGE

Precision Impact Range Area (PIRA)

UNIQUE CHARACTERISTICS

- » Second largest base in U.S. Air Force
- » Home of the U.S. Air Force Test Pilot School, NASA's Armstrong Flight Research Center, Benefield Anechoic Facility, the Edwards Museum and associated airspace includes the Black Mountain Supersonic Corridor
- » Features Rogers Dry Lake – a National Historic Landmark
- » Home to the world's largest compass rose
- » Manages critical habitat for the desert tortoise (*Gopherus agassizii*) which is federally listed as a threatened species
- » Rocket engine test facility at Air Force Research Laboratory Detachment 7



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- » **Armstrong Flight Research Center, National Aeronautic and Space Administration:** The Armstrong Flight Research Center is NASA's primary center for atmospheric flight research and operations. NASA Armstrong plays a critical role in carrying out the agency's missions of space exploration, space operations, scientific discovery and aeronautical research and development. In addition to conducting flight research and simulation work on a variety of advanced aeronautical and space-access technologies, Armstrong aircraft fly a variety of airborne environmental and Earth science missions around the world. The center also manages the Stratospheric Observatory for Infrared Astronomy – a high-tech telescope carried aboard a highly modified Boeing 747 – in partnership with the Ames Research Center and the German Aerospace Center.
- » **Detachment 1 Air Force Operational Test and Evaluation Center (AFOTEC):** Plans, executes, and reports the combined Operational Test and Evaluation (OT&E) of the F-35 Lightning II. Detachment 1 conducts OT&E of the F-35 Air System in operationally realistic battlespace environments to determine its effectiveness, suitability, and mission capability. Detachment 1 serves as the lead organization of the Joint Strike Fighter Operational Test Team comprised of members from AFOTEC, USMC/USN Operational Test and Evaluation Force and the United Kingdom Air Warfare Centre.
- » **31st Test and Evaluation Squadron:** Plans and conducts operational test and evaluation of advanced weapon systems, to include the F-35, B-1, B-2, B-52, RQ-4, and MQ-9 prior to fielding by the Combat Air Forces. The squadron is Air Combat Command's largest flight test unit.
- » **Air Force Audit Agency:** Provides all levels of Air Force management with independent, objective, quality audit services that include: reviewing and promoting economy, effectiveness, and efficiency of operations; evaluating programs and activities and assisting management in achieving intended results; and assessing and improving Air Force fiduciary stewardship and the accuracy of financial reporting.
- » **Detachment 111, Air Force Office of Special Investigation:** Provides special investigative services for the protection of Air Force and Department of Defense personnel. The unit strives to detect and provide early warning of worldwide threats. It identifies, exploits, and neutralizes criminal, terrorist, and intelligence threats to the Air Force, Department of Defense, and federal government.
- » **Federal Aviation Administration High Desert Terminal Radar Approach Control (TRACON):** Provides mission-related air traffic control services to DOD and DOD-sponsored aircraft within the entire R-2508 airspace complex, encompassing nearly 25,000 square miles.

For more information, please see < <http://www.edwards.af.mil> >